

Application No. 09/980,106

Filed: April 9, 2002

TC Art Unit: 1745

Confirmation No.: 1182

AMENDMENT TO THE CLAIMS

1-24. (Canceled)

25. (Previously Presented) A system provided with a fuel processor for generating hydrogen from a hydrocarbon compound and a combustion path, along which the generated hydrogen is passed for combustion, and in which combustion path at least one fuel cell is included for at least generating electric energy and optionally heat through combustion of the hydrogen generated by the fuel processor, characterized in that the system is further provided with a first heat exchanger and a second heat exchanger which, on the one hand, are series included in the combustion path downstream of the fuel cell, a first heating circuit in which the fuel cell is included, and a second heating circuit in which the fuel processor is included, which first heat exchanger, on the other hand, is included in the first heating circuit for exchanging heat between the combustion path and the first heating circuit, and which second heat exchanger, on the other hand, is included in the second heating circuit for exchanging heat between the combustion path and the second heating circuit;

characterized in that the system is further provided with an afterburner or boiler burner included in the combustion path between the first and the second heat exchanger; and

characterized in that the afterburner is further provided with a separate inlet for supplying a gas, such as natural gas.

26. (Previously Presented) A system provided with a fuel processor for generating hydrogen from a hydrocarbon compound and a combustion path, along which the generated hydrogen is passed

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for combustion, and in which combustion path at least one fuel cell is included for at least generating electric energy and optionally heat through combustion of the hydrogen generated by the fuel processor, characterized in that the system is further provided with a first heat exchanger and a second heat exchanger which, on the one hand, are series included in the combustion path downstream of the fuel cell, a first heating circuit in which the fuel cell is included, and a second heating circuit in which the fuel processor is included, which first heat exchanger, on the other hand, is included in the first heating circuit for exchanging heat between the combustion path and the first heating circuit, and which second heat exchanger, on the other hand, is included in the second heating circuit for exchanging heat between the combustion path and the second heating circuit;

characterized in that the system is further provided with a waste gas burner included in the combustion path between the fuel cell and the second heat exchanger; and

characterized in that the waste gas burner is further provided with at least one first inlet included in the combustion path and a second inlet for supplying air.

27. (Previously Presented) A system provided with a fuel processor for generating hydrogen from a hydrocarbon compound and a combustion path, along which the generated hydrogen is passed for combustion, and in which combustion path at least one fuel cell is included for at least generating electric energy and optionally heat through combustion of the hydrogen generated by the fuel processor, characterized in that the system is further provided with a first heat exchanger and a second heat exchanger

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which, on the one hand, are series included in the combustion path downstream of the fuel cell, a first heating circuit in which the fuel cell is included, and a second heating circuit in which the fuel processor is included, which first heat exchanger, on the other hand, is included in the first heating circuit for exchanging heat between the combustion path and the first heating circuit, and which second heat exchanger, on the other hand, is included in the second heating circuit for exchanging heat between the combustion path and the second heating circuit;

characterized in that the fuel cell is provided with a first inlet connected with the fuel processor for supplying hydrogen to the fuel cell, a second inlet for supplying air to the fuel cell, a first outlet for discharging waste gas from an anode of the fuel cell and a second outlet for discharging waste gas air from a cathode of the fuel cell; and

characterized in that the system is further provided with a controllable first bypass connection for bridging the first inlet and the first outlet of the fuel cell when starting up the system.

28. (Previously Presented) A system provided with a fuel processor for generating hydrogen from a hydrocarbon compound and a combustion path, along which the generated hydrogen is passed for combustion, and in which combustion path at least one fuel cell is included for at least generating electric energy and optionally heat through combustion of the hydrogen generated by the fuel processor, characterized in that the system is further provided with a first heat exchanger and a second heat exchanger which, on the one hand, are series included in the combustion path downstream of the fuel cell, a first heating circuit in which the

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fuel cell is included, and a second heating circuit in which the fuel processor is included, which first heat exchanger, on the other hand, is included in the first heating circuit for exchanging heat between the combustion path and the first heating circuit, and which second heat exchanger, on the other hand, is included in the second heating circuit for exchanging heat between the combustion path and the second heating circuit;

characterized in that the system is further provided with a waste gas burner included in the combustion path between the fuel cell and the second heat exchanger;

characterized in that the system is further provided with an afterburner or boiler burner included in the combustion path between the first and the second heat exchanger;

characterized in that the fuel cell, waste gas burner, second heat exchanger, afterburner and first heat exchanger are series connected; and

characterized in that the afterburner is further provided with a separate inlet for supplying a gas, such as natural gas, the waste gas burner is further provided with at least one first inlet included in the combustion path and a second inlet for supplying air, and the system is arranged such that waste gas air originating from the fuel cell or air from elsewhere can be supplied to the waste gas burner.